

This Preliminary Reply corresponds to the remarks contained in the Rule 116 Amendment filed February 8, 2001 in the parent application. As such, this Preliminary Reply is responsive to the Office Action dated November 22, 2000 in the parent application.

CLAIM OBJECTION

On page 2 of the Office Action, claim 6 is objected to because of a spelling error in which the word "hole" was misspelled as "hold." Claim 1 of this application reflects Applicants' consideration of the Examiner's objection.

§ 112, SECOND PARAGRAPH, REJECTION

On page 2 of the Office Action, claims 24-28 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

In particular, claim 24 has been rejected because the Examiner believes that the term "insulator structure" in line 9 has insufficient antecedent basis. Claim 5 of this application has been drafted to use the article "an" instead of "the" with the phrase "insulator structure", thereby resolving the Examiner's concerns.

§ 102 REJECTION

On page 3 of the Office Action, claims 6-9 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,140,705 to Liu (the Liu patent). Applicants traverse to the extent this rejection would be applied to claim 1-4.

The Examiner has asserted that the sidewall spacers of the Liu patent correspond to the claimed sidewall spacers. Applicants disagree and will explain why as follows.

Figure 1 of the Liu patent depicts adjacent gate electrodes 14 and 16. The gate electrodes 14 and 16 are insulated from a semiconductor substrate 10 by a silicon dioxide (SiO_2) layer 12. A gate cap oxide layer 18 is formed on each of the gate electrodes 14 and 16. The sides of the gates 14 and 16 as well as the sides of the gate cap insulating layer 18 are themselves insulated by a first sidewall spacer 20 formed of an oxide.

Also in Figure 1, an additional layer 22 of silicon dioxide is formed on the exposed surfaces of the gate cap layer 18, the first sidewall spacers 20 and the substrate 10. Then, a nitride layer 24 is formed on the silicon dioxide layer 22. Then, a sandwich structure, having a layer 26 of borophosphosilicate glass (BPSG), a layer of polysilicon 28 and another layer of BPSG 30, is formed upon the nitride layer 24.

In Figure 2, a contact hole 32 is formed so as to expose side edges of the polysilicon layer 28 as well as to expose the nitride layer 24. In Figure 3, the exposed ends of the polysilicon layer 28 are etched back (or

undercut) as indicated by item numbers 34 and 36. In Figure 4, the nitride layer 24 and the silicon dioxide layer 22 are etched to expose the doped drain region 38 of the semiconductor substrate 10.

In Figure 5, an insulating layer 40 is formed against the exposed edge of the polysilicon layer 28 and the BPSG layers 26 and 30. In addition, the insulating layer 40 covers the exposed surfaces of the nitride layer 24 and the silicon dioxide layer 22. In other words, the sidewall insulator 40 does not abut against the sides of the gate electrodes 14 and 16.

Independent claim 1 recites, in part, sidewall spacers wherein each sidewall spacer is formed to abut against both a side of the first or second conductor structures and a side of the insulator structure. Again, neither the sidewall insulators 20 nor the sidewall insulators 40 of the Liu patent can be interpreted as satisfying this claimed feature.

Claims 2-4 depend from claim 1 and are patentable at least for the same reasoning.

Thus, the Examiner is requested to refrain from applying the § 102 rejection over the Liu patent to claims 1-4.

§ 103 REJECTION

Beginning on page 4 of the Office Action, claims 24-28 are rejected under 35 U.S.C. § 103(a) as being obvious over the Liu patent. Applicant traverses to the extent that this rejection would be applied to claims 5-9.

Initially, Applicants wish to comment upon the Examiner's interpretation of independent claim 24 (corresponding to claim 5). In the paragraph on page 4 that bridges to page 5, the Examiner implies that claims 24 and 25 (corresponding to claim 6) both require that the impurity concentration of a first region be different from that of a second region. Applicant wishes to note that this is an aspect of dependent claim 25, not independent claim 24.

Like independent claim 1, discussed above, independent claim 5 recites first sidewall spacers, wherein each first sidewall spacer is formed to abut against both a side of the first or second conductor structures and a side of an insulator structure. Also as discussed above, this represents a distinction over the Liu patent, for example because neither the sidewall spacers 20 nor the sidewall spacers 40 can be interpreted as corresponding to this claimed feature.

Claims 6-9 depend at least indirectly from claim 5 and are patentable at least for the same reasoning.

Thus, the Examiner is requested to refrain from applying the § 103(a) rejection over the Liu patent to claims 5-9.

CONCLUSION

The issues in the case are considered to be resolved. Accordingly, Applicants again request entry of this communication into the record, reconsideration and further examination culminating in a Notice of Allowability.

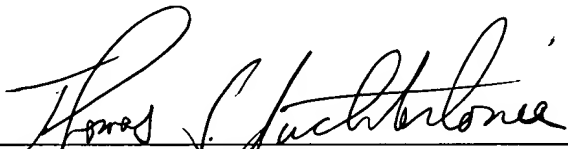
PERSON TO CONTACT

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned, at (703) 205-8000, in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By 

Thomas S. Auchterlonie

Reg. No. 37,275

P.O. Box 747

Falls Church, VA 22040-0747

(703) 205-8000

TSA:sld